Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
Federal-State Joint Board on	)	CC Docket No.
Universal Service	)	96-45

Comments of the American Telemedicine Association on the Recommended Universal Service Decision by the Joint Board

The American Telemedicine Association (ATA) is pleased to provide the following comments regarding the Recommended Decision by the Joint Board regarding Universal Service as contained within CC Docket No. 96-45. These comments expand and build upon the earlier comments by the association.[1]

ATA is the only national non-profit association concerned exclusively with telemedicine. The association's membership is composed of the nation's leading professionals and organizations actively engaged in the field of telemedicine. ATA's voting membership includes individuals from medicine, academia, and related fields of health care and technology.

Our comments respond to the questions posed by the Joint Board and contained in the Public Notice for comment by the FCC's Common Carrier Bureau and fall within five areas:

- Appropriate scope of services to be covered and the telecommunications needs of those services.
- Overall costs and benefits of providing health care services via telecommunications.
- Support for internet use in health care.
- Distance-based charges for health related telecommunications services in rural areas.
- Regular review of the Commission's actions.

[1] Comments of the American Telemedicine Association on the Notice of Proposed Rulemaking and Order Establishing Joint Board, CC Docket N. 96-45,

Telemedical services and bandwidth requirements

We believe that implementing the provisions of the health care language in the Telecommunications Act of 1996 requires the Commission to: 1) develop a baseline level of telecommunications services that will be accessible by every rural health care provider in the United States and 2) establish urban-comparable rates for the full range of telecommunications services that are required for the provision of health care to rural populations. Establishing a minimum level of service for universal access may require some build-out of the existing infrastructure. The rates would include the full range of telecommunications services that may not be available in every location but, where available, would enhance the delivery of health care.

Access

In our original recommendation before the FCC, ATA recommended that the Commission should ensure that all rural health providers have access to digital transmission services at transmission speeds of at least 112 Kbytes per second.[2] This was based on minimum requirements for transmission of medical information throughout the country recognizing the varied needs of different medical applications and the changing technical capabilities in data compression.[3] For rural hospital and academic medical centers higher transmission rates would certainly be required for such applications as live video conferencing and continuing medical education for rural health providers. In these cases, the Commission should consider insuring access to higher transmission speeds, up to the equivalent of T1 levels (1.544 Mbps).

There is no magic bandwidth threshold for the delivery of telemedicine. Telecommunications requirements for the delivery of health care over long distances include voice-grade communications, direct data transmission, high speed transfer of still images, and the delivery of one and two-way live video. The required connectivity speeds for the delivery of health care varies widely depending on the type of medical service being delivered, immediacy of need, and quality of equipment used on both ends of the transmission. The level of service used in telemedicine has been changing in recent years. In fact, with the progress in data compression technology there have been marked improvements in the quality of images transmitted using slower transmission speeds. Many telemedical projects are being designed to take advantage of multiple levels of service (dial-up services) that might be required depending on the specific need in each case.

[2] ibid. page 9-10. This rate was derived using an ISDN line with merged channels, increasing the normal ISDN transmission from 64 Kbps to 112 Kbps. This is double the rate available over normal telephone lines (56 Kbps).

[3] An example was used in ATA's original filing of a case using several high quality medical images and data resulting in a 20-25 Mbyte file. This would require 15 to 30 minutes of transmission over normal phone lines.

For areas where 112 Kbyte levels of service are not currently available the FCC should adopt measures to deploy the service to rural health providers using whatever forms of technology (land-line, cellular, satellite, etc.) that provides the highest quality and is most cost-effective. Where required, Universal Service Funds could be used to help pay for the deployment of such service with possible provisions to reimburse the fund with profits earned by the telecommunications company out of other uses of the advanced technology. The Commission might also consider leveraging use of the Telecommunications Development Fund for such purposes.

Prices

We suggest that the Commission set forth guidelines for the pricing of various levels of health care-related telecommunications services to rural health providers from POTS to T1 speed services. These pricing levels would be distance insensitive (see below) and technology insensitive: land-line, wireless or satellite. It is impossible and unwise for the FCC to pre-determine the transmission requirements for telemedicine across all of rural America. We advise against the FCC establishing urban-comparable rates for simply one-level of communications services for all rural health providers.

There are many different levels of telecommunications services in use for telemedicine today. For example, a quick search of the projects listed on the Telemedicine Information Exchange, an internet-based resource center, lists 30 out of 136 telemedicine projects in the United States with access to T1 level service and approximately 50 projects using ISDN services. The use of T1 levels of service (1.544 Mbs) is primarily needed for medical consultations requiring live, interactive video with high quality images. This might include emergency and surgical consultations and even some dermatology and cardiology consultations. Applications using store-and-forward of still images (e.g. radiology) may require far less transmission speeds.

Considerations in the cost and benefits of telemedicine

As of today there is not a substantial body of quantifiable studies on the costs and benefits of telemedicine. However, through thirty years of research and demonstrations and through anecdotal information gleamed from individual evaluations of demonstration projects, several generalizations can be drawn:

telemedicine can improve the health care of isolated populations through increased access to qualified medical specialists and increased education of rural health providers;

telemedicine can reduce the costs to the patient by reducing travel times otherwise required to travel to a distant medical specialist;

telemedicine can lead to lower costs for health care by allowing health facilities to share the use of medical specialists and advanced medical equipment instead of duplicating (and under-utilizing) personnel and equipment;

telemedicine can improve the prospect of maintaining the overall quality of rural health care by providing on-going cash flow to rural health facilities that are able to hold on to patients that would otherwise be transferred to facilities in urban locations.

In gaining specific, quantifiable data, several intriguing hypotheses can be used. For example, the United States Department of Transportation uses a flat rate of $10.75 per hour per vehicle to value the cost of traffic congestion on society. If the use of telemedicine avoids a three hour trip to a more advanced medical clinic then the resulting six hours in avoided travel could yield savings of $64.50 in travel-related costs alone. If the travel would require transport in an ambulance or helicopter the travel savings could increase to $500 to $1,500 for the same trip.

In another analysis, the use of telecommunications for health care can reduce pressure on government and medical institutions to hire medical specialists that may be underutilized using standards followed for most urban areas. For example, a rural community's access, via telemedicine, to a well trained cardiologist may avoid the need for establishing a local practice costing anywhere from $200,000 to $500,000. The resulting savings will accrue to the various insurance, HMO, and government programs and, ultimately, to the general population.

Toll-Free Internet Access

All health care providers should have toll-free direct access to the internet. Unfortunately, providers in many rural areas must pay long distance toll charges to access the internet. This represents another barrier to the realization of the benefits of telemedicine for rural consumers. A local internet "point of presence", or POP, is available in practically every part of U.S. metropolitan regions. However, many residents in rural areas must make a long distance call or pay a premium for using an 800 number to access the internet. Therefore, the FCC should act to ensure that all health providers have toll-free access to the internet.

Indeed, access to the internet by rural health providers should be a national priority. The internet directly links physicians and other professionals with timely information about new and developing aspects in medicine, often critical for the education of isolated health professionals. It enables the rural health provider to maintain contact with peer health professionals to discuss related medical developments. Finally, the internet is increasingly used to transmit patients' medical information and images to consulting physicians. There is no doubt that the internet will play a larger role in the use of telemedicine in the years ahead.

In implementing this policy the FCC should consider a variety of approaches including auctions for the establishment of local internet POPs throughout the country, special 800 number internet access for rural health providers, and wireless internet access using cellular, satellite, or other appropriate mechanisms at local call rates. The Commission should also consider providing incentives to the local exchange carriers for the provision

of internet access for rural health providers which may require a special exemption to the existing interLATA restrictions. Considerations used in implementing this policy should include the speed of providing the service, the quality of the connection, and, of course, cost.

Distance-based charges

The intent of Congress in passing the health care language in the Telecommunications Act of 1996 was to increase access to quality health care by reducing the cost of telecommunications to rural health providers. Establishing rules that continue to allow distance-based charges for rural health providers access to telecommunications would effectively thwart the intent of Congress. The primary difference between cost of service between urban and rural consumers of telecommunications is the requirements of providing the same service to distant locations. Equalizing the cost of accessing advanced telecommunications services between urban and rural areas must include factors that eliminate the "distance-penalty" paid by rural health providers. The elimination of distance-based charges should hold for each and every level of telecommunications service required by telemedicine from voice-grade to T1 services.

Review and Assessment

Finally, given the dynamic environment in which telemedicine and telecommunications technology is evolving, we believe the Commission should establish a regular review of the regulations promulgated under this Docket. We suggest that the Commission conduct a follow-up review no later than five years from the date of the issuance of the final report and order.

For the American Telemedicine Association:

Jay Sanders, MD, FACP
President

December 19, 1996

I, Sheila Thompson, a secretary with the consulting firm of Issue Dynamics, hereby certify that on this 19th day of December, 1996, a copy of the Comments of the American Telemedicine Association on the Recommended Universal Service Decision by the Joint Board was mailed, first class postage prepaid to the following:

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